WHAT IS CLAIMED IS:

1. A packet switching apparatus with a plurality of pairs of input/output ports, forwarding packets it received to their destination, based on a session as point-to-point connection set up between a terminal and a destination network, comprising:

a pathfinding table to contain entries on a plurality of entry lines, to which, route information to be known when a first packet of a session is received and associated output information consisting of the identifier of an output port through which to send out the packet received, the identifier of an output tunnel consisting of one session or a bundle of a plurality of sessions through which packets are logically passed to a point in a network, and the identifier of an output session are defined; and

a processing unit for packets received which searches said pathfinding table for an entry line matching with the route information included in a packet received, performs processing for the received packet, according to packet output route information specified on the searched out entry line, and sends out the received packet through the output port identified by the output port identifier on said specific entry line.

2. The packet switching apparatus according to claim 1, wherein said apparatus handles packets to be transmitted through said session or sessions based on a Point to Point Protocol (PPP).

3. The packet switching apparatus according to claim 1, wherein said apparatus handles packets to be transported through output tunneling based on a Layer 2 Tunneling Protocol (L2TP).

4. The packet switching apparatus according to claim 1, wherein said apparatus handles packets to be transported through output tunneling based on a Mobile IP.

5. The packet switching apparatus according to claim 1, wherein said apparatus handles packets transported through input tunneling based on Generic Routing Encapsulation (GRE).

6. A packet switching apparatus connected to several networks, each network using a specific communication protocol for transmitting packets across it, said apparatus forwarding packets it received to their destination, based on a session as point-to-point connection set up between a terminal and a destination network, comprising:

a plurality of input line interface units, each connecting to at least one input line and carrying out protocol processing in compliance with the OSI Reference Model, at least Layer 1, for packets input through said input line;

a plurality of output line interface units, each connecting to at least one output line and carrying out protocol processing in compliance with the OSI Reference Model, at least Layer 1, for packets to be output over said output line;

a plurality of input session processing units, each connecting to at least a few input line interface units and carrying out session or tunnel processing for packets received from the input line interface units;

a plurality of output session processing units, each connecting to at least a few output line interface units and carrying out session or tunnel processing for packets to be transferred to the output line interface units;

a switch unit that carries out packet switching from the plurality of input session processing units to the plurality of output session processing units;

a control unit connecting to said plurality of input line interface units, plurality of output line interface units, plurality of input session processing units,

plurality of output session processing units, and switch unit and has control over them.

7. The packet switching apparatus according to claim 6, wherein said apparatus handles packets to be transmitted through said session based on the PPP.

8. The packet switching apparatus according to claim 6, wherein said apparatus handles packets to be transported through tunneling based on the L2TP.

9. The packet switching apparatus according to claim 1, wherein said apparatus handles packets to be transported through tunneling based on the Mobile IP.

10. The packet switching apparatus according to claim 1, wherein said apparatus handles packets to be transported through tunneling based on GRE.

11. A packet switching apparatus with a plurality of pairs of input/output ports, forwarding packets it received to their destination, based on a session as point-to-point connection set up between a terminal and a destination network, comprising:

a parthfinding table to contain entries on a plurality of entry lines, to which input information to be known when a first packet of a session is received consisting of the identifier of an input port, the identifier of an input tunnel consisting of one session or a bundle of a plurality of sessions through which packets are logically passed to a point in a network, and the identifier of an input session and associated information about the identifier of an output port through which to send out the packet received are defined; and

a processing unit for packets received which searches said pathfinding table for an entry line matching with the route information included in a packet received, performs processing for the received packet, according to packet output route information specified on the searched out entry line, and sends out the received packet through the output port identified by the output port identifier on said specific entry line.

12. The packet switching apparatus according to claim 11, wherein said apparatus handles packets to be transmitted through said session or sessions based on the PPP.

13. The packet switching apparatus according to claim 11, wherein said apparatus handles packets transported through input tunneling based on the L2TP.

14. The packet switching apparatus according to claim 11, wherein said apparatus handles packets transported through input tunneling based on the Mobile IP.

15. A packet switching apparatus with a plurality of pairs of input/output ports, forwarding packets it received to their destination, based on a session as point-to-point connection set up between a terminal and a destination network, comprising:

a parthfinding table to contain entries on a plurality of entry lines, to which route information to be known when a first packet of a session is received and associated information about the identifier of an output port through which to send out the packet received are defined; and

a processing unit for packets received which searches said pathfinding table for an entry line matching with the route information included in a packet received, performs processing for the received packet, according to packet output route information specified on the searched out entry line, and sends out the received packet through

the output port identified by the output port identifier on said specific entry line.

16. The packet switching apparatus according to claim 15, wherein said apparatus handles packets to be transmitted through said session or sessions based on the PPP.

17. A packet switching apparatus connected to several networks, each network using a specific communication protocol for transmitting packets across it, said apparatus forwarding packets it received to their destination, based on a session as point-to-point connection set up between a terminal and a destination network, arranged such that:

even when the terminal moves, leaving the area of a network and entering the area of another network among said several networks, said apparatus continues to forward packets it received through the existing point-to-point session handed over to the network where the terminal now stays only by changing the output tunnel consisting of one session or a bundle of a plurality of sessions through which packets are logically passed to a point in a network.

18. The packet switching apparatus according to claim 17, wherein said apparatus handles packets to be transmitted through said session or sessions based on the PPP.

19. The packet switching apparatus according to claim 17, wherein said apparatus handles packets to be transported through output tunneling based on the L2TP.

20. The packet switching apparatus according to claim 17, wherein said apparatus handles packets to be transported through output tunneling based on the Mobile IP.